

## II. AMENDMENTS TO THE SPECIFICATIONS

- a. Please accept the amendments to the title as follows:

METHOD OF ~~MANUFACTURING~~ MAKING A SURFACE MOUNTABLE  
SEMICONDUCTOR DEVICE USING A FLEXIBLE FOIL AND A SEMI-  
CONDUCTOR DEVICE OBTAINED BY MEANS OF SAID METHOD

- b. Please accept amendment to page 4, lines 14-31 as follows:

Fig. 1 is a diagrammatic, cross-sectional view, at right angles to the thickness direction, of a semiconductor device with a diode, which is manufactured by means of a method in accordance with the invention. The device 10 comprises a semiconductor body 1 with an active element, in this case a diode, which is provided with connection regions 2 situated at the surface of the semiconductor body 1. By means of solder 8, these connection regions are electroconductively connected to a conductor pattern 4, which in this case comprises two connection conductors ~~[[4]]~~ 4a, and which is ~~situated~~ formed in a conductive ~~layer-4 layer~~, in this case of copper, which forms part of a (flexible) foil 6 which, apart from the conductive ~~layer-4 layer~~, comprises an electrically insulating layer 3 wherein ~~openings~~ conductive vias 5 are formed at the location of the soldered joint 8. Between the semiconductor body 1 and the foil 6, fixing agents are provided on the insulating layer 3, which support the semiconductor body 1 and unburden the soldered joints 8. Between the semiconductor body 1 and the foil 6, a synthetic resin envelope 13, in this case of an epoxy material 13, is situated (around the fixing means 12 and the

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soldered joints 8), which synthetic resin envelope is also situated around the semiconductor body 1. A method of manufacturing, which will be described hereinafter, enables this device 10 to be very compact, particularly in the thickness direction, and to be readily manufacturable at low cost. The device 10 of this example is manufactured as follows, using an embodiment of a method in accordance with the invention.

c. Please accept amendment to page 4, line 32 to page 5, line 8 as follows:

Figs. 2A through 2F are diagrammatic, cross-sectional views, at right angles to the thickness direction, of the semiconductor device of Fig. 1 in successive stages of the manufacture, using an embodiment of a method in accordance with the invention. Figs. 3A and 3B are diagrammatic, plan views of the manufacture of a part used, in the method of Fig. 2, in Fig. 2E. Use is made (see Fig. 2A) of a flexible foil 6 which comprises an electrically insulating layer 3, in this case a polyimide layer having a thickness of 50  $\mu\text{m}$ , and a conductive ~~layer 4~~ layer, in this case a copper layer having a thickness of 17  $\mu\text{m}$ . On the side of the insulating layer 3, the foil 6 is detachably secured to a substrate 9, in this case of glass having a thickness of 5 mm, by means of a thermoplastic or UV-soluble adhesive. By means of photolithography and etching with an etchant that is suitable for copper, the conductive ~~layer 4~~ layer is subsequently converted to a conductor pattern 4 that is suitable for a diode.

d. Please accept amendment to page 5, lines 9 - 17 as follows:

Subsequently, (see Fig. 2B) on the side of the conductor pattern 4, the foil 6 is also detachably secured to a second substrate 7, in this case also made of glass having a thickness of 5 mm, by means of an adhesive similar to the one described hereinabove, after which the first substrate 9 is removed. The insulating layer 3, which in this case ~~comprises a~~ of polyimide layer 3, is subsequently provided with ~~openings~~ conductive vias 5 exposing the conductor pattern 4 by means of photolithography and etching using a customary etchant. Subsequently, (see Fig. 2C) solder 8 is provided in these ~~openings~~ conductive vias 5, said solder comprising in this case a Sn-Ag-Cu-Sb solder 8. Preferably, as in this example, use is made of a so-termed printing technique. This technique is simple and very suitable for mass production.